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EXAMINER
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NILAND, PATRICK DENNIS

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PAPER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/792,269  
Filing Date: March 04, 2004  
Appellant(s): GANSEN ET AL.

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Michael Whitham  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 7/9/07 appealing from the Office action mailed 11/14/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

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**(8) Evidence Relied Upon**

2005/0263243                      Schumann et al.                      12-2005

EP 1095993 A2                      Schumann et al.

10-2000 (Translation will  
be provided when  
received in about  
2 weeks) *pn*  
10/10/07

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

A. The rejections of claim 31 under 35 U.S.C. 112, first paragraph of paragraph 3 of the final rejection of 11/14/06 is withdrawn in view of the appellant's arguments, particularly the text of originally pending claim 3.

B. Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

1. The instant claim 31 recites "more than 60% of primary OH groups". It is unclear if the percentage is based on weight of the compound or the number of functional groups such as those well known compounds which have mixtures of functional groups such as SH and OH groups or NH and OH groups.

C. Claims 17 and 36-38 are rejected under 35 U.S.C. 102(b and e) as being anticipated by EP 1095993 A2, which is prior art under section b, as translated by US Pat. Application Pub.

No US 2005/0263243 Schumann et al. which is prior art under section e.

Schumann discloses the instantly claimed polyurethane compositions and foils at the abstract; sections [0058], [0094] through [0107] which encompasses the instantly claimed oxide particles, polyisocyanates, polyols, catalyst, [0113], [0115][0119], [0136], [0142]-[0221],

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particularly the examples of sections [0144], [0152], [0159] and the remaining examples of the above cited sections, the claims, and the remainder of the document. No amine initiator is used. Removal of the film, i.e. foil, of the reference from its release layer constitutes the “demolding” of the instant claims. Claims 17 and 36 recite “comprising” regarding the foil and therefore encompass the adhesive layer of the reference. The components of the examples are those of the instant claims which is clear on its face. They are clearly stored separately until use. There is no probative showing that any additional materials of the reference’s exemplified compositions cited above materially affect the basic and novel characteristics of the composition. Therefore the additional materials of the reference are not excluded by “consisting essentially of” of the instant claim 38. The release layer of the tape of the reference is clearly removed to reveal the adhesive layer on the polyurethane backing as would be understood by the term “release paper” in the context of the reference. This removal of the release layer constitutes removal of a “smooth surface” or “demolding”. Its ability to be removed from a release layer is clear evidence that the polyurethane films, i.e. foils, of the reference have the ability to be demolded, i.e. they are clearly demoldable. The reference compositions fall squarely within the scope of the instant claims. The appellant therefore fails to show how the instantly claimed compositions “do not overlap Schumann.” Claims 37 and 38 do not require the compositions to be sprayable. The fact that the compositions of the reference are liquid is prima facie evidence that they have the ability to be sprayed by some means if in fact they are not actually applied by spraying and even if this ability to be sprayed requires dilution with solvent. That they form films is clearly taught by the reference. See the entire document, particularly the examples, more particularly the example at section [0165] for the instantly claimed film thickness. The above is fully responsive

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to the appellant's arguments on the face of the above rejection. This rejection is therefore maintained.

D. Claims 14-17, 19-26, 28, 30-32, and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of EP 1095993 A2 and US Pat. Application Pub. No US 2005/0263243 Schumann et al..

Schumann discloses the instantly claimed polyurethane compositions and foils at the abstract; sections [0058]. [0094] through [0107] which encompasses the instantly claimed oxide particles, polyisocyanates, polyols, catalyst, [0113], [0115][0119], [0136], [0142]-[0221], particularly the examples of sections [0144], [0152], [0159] and the remaining examples of the above cited sections, the claims, and the remainder of the document. No amine initiator is used. Removal of the film, i.e. foil, of the reference from its release layer constitutes the "demolding" of the instant claims. Claims 17 and 36 recite "comprising" regarding the foil and therefore encompass the adhesive layer of the reference. The components of the examples are those of the instant claims which is clear on its face. They are clearly stored separately until use. There is no probative showing that any additional materials of the reference's exemplified compositions cited above materially affect the basic and novel characteristics of the composition. Therefore the additional materials of the reference are not excluded by "consisting essentially of" of the instant claim 38. The release layer of the tape of the reference is clearly removed to reveal the adhesive layer on the polyurethane backing as would be understood by the term "release paper" in the context of the reference. This removal of the release layer constitutes removal of a "smooth surface" or "demolding". Its ability to be removed from a release layer is clear evidence that the polyurethane films, i.e. foils, of the reference have the ability to be demolded,

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i.e. they are clearly demoldable. The reference compositions fall squarely within the scope of the instant claims. The appellant therefore fails to show how the instantly claimed compositions “do not overlap Schumann.” Claims 37 and 38 do not require the compositions to be sprayable. The fact that the compositions of the reference are liquid is prima facie evidence that they have the ability to be sprayed by some means if in fact they are not actually applied by spraying and even if this ability to be sprayed requires dilution with solvent. That they form films is clearly taught by the reference. See the entire document, particularly the examples, more particularly the example at section [0165] for the instantly claimed film thickness.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use spraying of the instant claims 14-16 to apply the above discussed polyurethane because the reference states that application may be done “in a customary coating process” at section [0032] and spraying solutions of coating is one of the most well known and used means to coat from a solution and its benefits such as uniform coating would have been expected in the coating of the references which use the instantly claimed temperatures and thicknesses (section [0170]).

Example at [0171] applies the urethane at the temperature of the instant claim 16. The isocyanates of the examples cited above have the NCO content of the instant claim 22 and the functionality thereof. Omyacarb 4BG of the examples falls within the scope of the instant claim 24. The examples of the reference use the amounts of the instant claims 25 and 26. Sections [0098] and [0107] read on the instant claim 28. The exemplified polyols contain 100% primary OH groups which falls within the scope of the instant claim 31 and the examples use the

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polyisocyanates of the instant claim 30. Using the fillers and siccatives of the reference meets the instant claim 32.

E. Claims 27, 29, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

There is not proper motivation to modify the products and compositions of the prior art according to the instant claims.

**(10) Response to Argument**

**I. In response to the applicant's arguments regarding the rejection of paragraph 9(B) above:**

Claim 31 does not recite "60% or more of the OH groups are primary OH groups" as argued by the appellant. The examiner agrees that such language would be definite. Claim 31 recites "The process of claim 21, wherein the compound of component (B) has more than 60% of primary OH group." The basis of this percentage is not stated as the appellant states it in their arguments. Contrary to the appellant's definition of "polyol" of claim 21, "polyol" merely means that there is more than 1 OH group. "Polyol" does not exclude the presence of other functional groups. Polyols having more than OH functional groups are well known in the art and encompassed by the language of claims 21 and 31. The basis for the percentage of claim 31 therefore needs clarification, such as the language "of the OH groups" the appellant uses in their arguments to clarify the basis but that is not recited in the claims resulting in the lack of clarity stated above. The fact that the appellant recites the clarifying language "of the OH groups" in



their arguments to clarify the issue but does not recite the clarifying language in the claims yields the contrast between the clear argument language and the unclear claim language which emphasizes the actual lack of clarity present in the claim language.

**II. In response to the applicant's arguments regarding the rejection of paragraph 9(C) above:**

It is not seen that 2005/0263243 is not prior art under 35 USC 102(e). The examiner notes particularly MPEP 706.02(f) subparagraph (B) "Determine if the potential reference resulted from, or claimed the benefit of, an

international application. If the reference does, go to step (C) below. **The 35**

**U.S.C. 102(e) date of a reference that did not result from, nor claimed the**

**benefit of, an international application is its earliest effective U.S. filing date,**

**taking into consideration any proper benefit claims to prior U.S. applications**

**under 35 U.S.C. 119(e) or 120 if the prior application(s) properly supports the**

**subject matter used to make the rejection in compliance with 35 U.S.C. 112, first**

**paragraph. See MPEP § 2136.02.**"

and 2136.02. The appellant has not shown that the disclosure of 2005/0263243 that is required to reject the instantly claimed inventions is not supported by the parent application 09/698404. The appellant has cited 09/698404 during prosecution. The examiner notes that the minor differences in the parent application 09/698404 and the cited prior art 2005/0263243, i.e. the material added to the disclosure of 09/698404 to give the disclosure of 2005/0263243 is not required of the instant rejection nor the instant claims. In other words, the material supported by

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the parent application and present in the cited prior art 2005/0263243 is sufficient to reject the instant claims with and therefore 2005/0263243 is prior art under 102(e).

It is noted that the appellant states that 09/698404 appears to be similar to EP 1095993 A2 at page 12 of their Appeal Brief. The disclosure of the parent application 09/698404 present in 2005/0263243 therefore should be taken as a proper English translation of EP 1095993 A2 in view of the appellant's admission.

The rejection of paragraph (9)(C) above is directed to only claims 17 and 36-38 which are directed to demolded polyurethane foils and polyurethane compositions.

The "polyurethane foil" claims recite "comprises" and therefore include the additional layers of the cited reference. The film of the cited reference is taken as falling within the scope of "polyurethane foil" since it is polyurethane and nothing in the instant specification nor the state of the art excludes such films from "foil".

The polyurethane composition claims are clearly met by the cited prior art. It is always the case that the reactive isocyanate is kept separate from the reactive polyol until they are desired to be reacted. Such is clearly evidence from the prior art abstract disclosing these components in separate containers A and B. This squarely meets "at least some of which are stored separately" and the instantly claimed components A and B. The prior art does not require "amine initiators". The appellant has provided no section of the cited prior art, as supported by 09/698404 which requires amine initiators. The above cited sections clearly encompass the use of the instantly claimed components (C) and (D) and these cited sections are supported by 09/698404, page 9, lines 1-3, particularly the organotin catalysts though tertiary amines catalysts are also not amine initiators since they cannot react, i.e. initiate, with the polyurethane forming

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components, and lines 15-19 of which silica and zinc oxide fall within the scope of (D) and page 8, lines 6-11 falls within the scope of the amounts of (D). This same disclosure is present in the cited reference, which is a child of parent application 09/698404.

The applicant has not shown any additional components of the cited prior art to materially affect the basic and novel characteristics of the instantly claimed polyurethane composition of claim 38. It is therefore not seen that “consisting essentially of” excludes any components of the cited prior art. See MPEP 2111.03 [R-3] Transitional Phrases.

The instant claims recite no degree of curing. The appellant’s arguments regarding “partially cured” therefore do not apply since the instant claims encompass partial cures. This issue aside, all reactive systems will react to completion to the degree that they will react as far as they are capable of reacting under given conditions.

The appellant argues that the cited reference does not disclose a polyurethane foil which is peeled off a mold or flat surface. The instant claims do not require “peeling”. The instant claim 36 recites “demolded”. The claim is ultimately directed to the product, not the method of making the product. The appellant provides no evidence that the layers of polyurethane poured onto the pressure sensitive adhesive layer and removed from the belt of the cited prior art are different from or unobviously different from the article if it were “demolded” assuming for the sake of argument that the removal from the belt (note figures argued by appellant) of the prior art does not fall within the scope of “demolded”. See MPEP 2113.

The instant claims do not require a thin polyurethane foil having a high tensile strength. The instant claims do not require the mechanical tear strength and tear propagation for demolding either. It is improper to read limitations into the claims which the claims do not require.

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The argument that the tape of the cited prior art is not freely demoldable since it has a backing cannot be persuasive since it is freely removed from the belt of the figure which clearly implies that it could be freely demolded even if for the sake of argument removal from the belt does not constitute demolding.

The appellant asserts that the composition claims cannot be patentable for the reasons they have given. However, the appellant's arguments address the foil and its method of production. None of the arguments are seen as addressing the claimed compositions per se. Some of the property arguments could be taken as directed to the compositions. However, the composition claims do not require these argued properties either.

The appellant argues that the cited prior art teaches the use of amine initiator. The appellant references "Jeffamines" in a reference (Recticell) which is no longer cited. Arguments to Recticell are therefore not required.

The appellant argues that Schumann makes clear that Schumann does not intend to avoid amine initiators citing section [0101] of the cited reference. It is noted that the argued amines are not required, the examples do not use them, and the abstracts recite specifically "polyols". The reference encompasses not using the amine initiators excluded by the instant claims.

Claim 38 is directed to the composition, not the foil argued by the appellant. There is no evidence that the compositions of the cited prior art could not be used "for foil". The examiner asserts that they are since the tapes of the prior art are "foils" within the scope of the term "foil" as defined by the instant specification particularly in view of "comprising" and contain the instantly claimed components and therefore must necessarily be useful as making foils. Claim 38 is a composition claim that does not require "demolding" nor any properties relating thereto.

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The appellant has not shown the prior art compositions to lack any argued properties in any event. Again, section [0101] of the cited prior art does not require use of amine initiators, as clearly stated above. This argument is not consistent with what the reference actually teaches and does. Schumann need not teach “avoiding amine initiators” since their examples and teachings actually don’t require them and actually do not use them. These arguments apply to the appellant’s arguments regarding claim 37 for the reasons stated above also.

Schumann’s tape falls within the scope of “foil” within its definition in the instant enabling specification, particularly since the claims recite “comprising” and therefore include additional layers of the cited prior art. Schumann in fact does not use and does not require the use of amine initiator, as clearly stated above and is readily seen from a fair reading of the prior art cited. The appellant’s argument that the backing is in a “partially cured state” lacks probative evidence. Reactive systems such as those of the cited prior art react to the full extent that they are capable of within the environmental and chemical conditions they exist in. The instant claims recite no degree of reaction, curing, nor any other parameters which distinguish the instant foil claims from the tapes of the cited prior art for all of the reasons stated above.

The product by process arguments stated above rebut arguments regarding “demolded”. In addition, it is not seen that separation of the web 3 argued by the appellant from the web 1/backing material is not the same thing as demolding on its face.

**III. In response to the applicant’s arguments regarding the rejection of paragraph 9(D) above:**

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All of the arguments presented in paragraph (10)II above apply to the appellant's arguments in this section also, including why the cited prior art is prior art under 102(e) for that portion of the disclosure of 2005/0263243 which is supported by parent application 09/698404.

The appellant argues that the cited prior art teaches coating liquid polyurethane backing material onto web materials. The instant process and foil claims recite "comprising" and therefore encompass the additional layers of the reference and the additional steps required to make such layers. The applicant argues that the polyurethane is partially cured. The instant claim 14, for example, recites "permitting it to react to completion". It is noted that this does not describe a degree of curing. It is taken as requiring the reactants to react until they are no longer capable of reacting any more under the conditions, including temperature, amounts of reactants, and other factors that control polymerizations, under which the reaction system exists. The language of the instant claims "permitting it to react to completion" cannot be taken as reaction until no more functional groups are left to react because no polymer reaction has a degree of polymerization of 100%. Constraints in the polymer matrix at a certain point limit molecular mobility such that further reaction will not occur. Thus, the claim language "permitting it to react to completion" can only be interpreted as allowing the thing to react as far as it will under the circumstances it is in, considering such factors as heat, viscosity of the matrix, catalyst presence, stoichiometry, and other factors which influence polymer reactions. The disclosure of "curing" which is supported by the parent application 09/698404 is taken as "permitting it to react to completion" because the cured system of the prior art has reacted to completion in that it has reacted as far as the system of the prior art is capable of reacting under the conditions it

exists. The appellant has supplied no evidence that their system reacts to give a degree of polymerization of 100% and such a degree of polymerization is not believed to occur ever.

The abstract of 09/698404 (which application is specifically referenced in the appellant's brief) recites "cured" without "partially" argued by the appellant. Furthermore, the polyol and polyisocyanate system of the cited prior art are described as reactive and are known to be reactive and will continue to react after the time requirement of section d of the abstract of Schumann et al. (2005/0263243). Schumann discloses heating for a time that does not give complete curing but does not state that the laminate, which falls within the scope of the instantly claimed foils, does not further react to completion later on as is expected of polyurethane forming systems and all systems containing reactive components.

The appellant argues that Schumann does not disclose peeling a polyurethane foil off of a mold or flat surface. Removal of the tape from the device of Fig. 1 of the Schumann references is clearly such "peeling" as is removal of the web 3 from web 1/backing layer discussed above. It is not seen where any claims recite the "high tensile strength" argued by the appellant. Thus, the claims read on low tensile strength foils also. The tapes of the cited prior art that fall within the scope of the instantly claimed "foils" are not shown not to have "high tensile strength" in any event. The claimed thickness is disclosed in example 4 of the cited prior art, including its basis in the parent application. Thus, the cited prior art does describe a thin polyurethane foil, contrary to the appellant's arguments. It is particularly noted that page 14 of the appellant's Brief on Appeal, lines 18-19 equates "foil" to "film". The cited prior art clearly discloses such "foils" or "films".

The appellant argues regarding the partial cure of the step d of the abstract of the cited prior art. However, the portion of this reference relating to partial cure is the time it is heated. The reference does not teach away from the reactants completely reacting and the ordinary skilled artisan understands that once such reactive components as polyol, polyisocyanate, particularly combined with catalyst, are mixed together they will necessarily react to completion where "completion" is understood by the ordinary skilled artisan to be as far as the reaction is capable of proceeding under the conditions applied to the system. No polymer system reacts to a degree of polymerization of 100% as stated above. The cited prior art does not intend, does not disclose, and cannot keep the mixed polyols and polyisocyanates from reacting to completion. Section [0091] of Schumann does not teach that the wound up film does not continue to react. Removing web 3 from web 1/polyurethane backing, as discussed above and by the appellant does fall within the scope of "demolding" since the web removed functions to define the shape of the layers which are attached to it particularly when these layers are applied in liquid form. The layer of web 3 gives the flatness or film shape or foil shape to the article of the cited prior art. Removal upon use of the tape, as discussed above, is the peeling or demolding of the instant claims. The appellant has not shown that at the time of use the reactive components of the polyurethane have not reacted to completion as the ordinary skilled artisan would understand this terminology, particularly given the reactivity of polyols and polyisocyanates in the presence of catalyst. See section [0103], section [0117] noting "reactive initially liquid backing material", and section [0118]. The winding prior to reaction completion does not mean that the reaction is stopped and does not continue after winding. Polyol and polyisocyanate will react at ambient temperatures until one or the other is consumed, particularly in the presence of catalyst. NCO



will then react with ambient moisture where it is the excess component. The reaction of these reactive components of the patentee cannot be stopped. The point prior to cure completion is merely where heating is stopped and winding begins. The reference never states that reaction stops here.

The appellant argues that Schumann produces a tape which is wound on a device where the tape has a partially cured backing material associated with a web (this is not a polyurethane foil). The appellant's specification does not define such a laminate of films as not being a "foil". The appellant's arguments equate "foil" to "film" as stated above. The cited prior art films are therefore foils within the scope of the instant claims. There is no probative evidence to the contrary. The "foil" claims recite "comprising" and therefore encompass the additional layers of films of the cited prior art.

The appellant argues that peeling the release layer from the polyurethane film backed tape of the cited prior art, e.g. the release layer of section [0151] for example, is not the same as demolding a polyurethane foil from a mold or flat surface because the release layer does not serve the same function as a mold. It is a flat surface. Its shape serves to give shape to the liquid polyurethane reactant mixture which appear to be the same function as a mold to the examiner and is clearly the function of a flat surface. This rebuts the appellant's position. Removal of the release layer, which is done by definition of "release layer" requires the "peeling" the appellant has extensively argued about. The examiner therefore sees the same process steps in this aspect of the cited prior art disclosure as claimed regarding the demolding steps.

The appellant's arguments regarding amine initiators are rebutted by the cited prior art's lack of requiring the use of the amine functional compounds argued by the appellant and the fact

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that these amines are not used in the cited prior art's examples and are not in fact required to be used by the cited prior art.

The above addresses all of the appellant's arguments.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Patrick Niland  
Primary Examiner  
GAU 1796

Conferees:



David Wu  
Supervisory Patent Examiner  
GAU 1796



Romulo Delmendo, Appeals Specialist